

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 09/518,297A
Source: FW16
Date Processed by STIC: 1/24/05

ENTERED

**edit authorized by applicant and examiner*

**CRF Errors Edited by the STIC Systems
Branch**

Serial Number: 09/518,297A

CRF Edit Date: 2/23/05
Edited by: AC

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

✓
___ Other: Sequence 64- changed <2117 response from "43" to
"44" and corrected amino acid numbering



IFW16

RAW SEQUENCE LISTING

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:49

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

4 <110> APPLICANT: Lim, Moon Young
 5 Edwards, Cynthia A.
 6 Fry, Kirk E.
 7 Bruice, Thomas W.
 8 Starr, Douglas B.
 9 Laurance, Megan E.
 10 Kwok, Yan
 13 <120> TITLE OF INVENTION: DNA Binding Compound-Mediated Molecular
 14 Switch System
 16 <130> FILE REFERENCE: 54600-8130US00
 18 <140> CURRENT APPLICATION NUMBER: US 09/518,297A
 19 <141> CURRENT FILING DATE: 2000-03-03
 21 <150> PRIOR APPLICATION NUMBER: US 60/122,513
 22 <151> PRIOR FILING DATE: 1999-03-03
 24 <150> PRIOR APPLICATION NUMBER: US 60/154,605
 25 <151> PRIOR FILING DATE: 1999-09-17
 27 <160> NUMBER OF SEQ ID NOS: 84
 29 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 31 <210> SEQ ID NO: 1
 32 <211> LENGTH: 11
 33 <212> TYPE: DNA
 34 <213> ORGANISM: Artificial Sequence
 36 <220> FEATURE:
 37 <223> OTHER INFORMATION: DNA response element
 39 <400> SEQUENCE: 1
 40 cggttcgcact t 11
 42 <210> SEQ ID NO: 2
 43 <211> LENGTH: 17
 44 <212> TYPE: DNA
 45 <213> ORGANISM: Artificial Sequence
 47 <220> FEATURE:
 48 <223> OTHER INFORMATION: DNA response element
 50 <400> SEQUENCE: 2
 51 cggagtactg tcctccg 17
 53 <210> SEQ ID NO: 3
 54 <211> LENGTH: 12
 55 <212> TYPE: DNA
 56 <213> ORGANISM: Artificial Sequence
 58 <220> FEATURE:
 59 <223> OTHER INFORMATION: DNA response element
 W--> 61 <221> NAME/KEY: misc_feature
 62 <222> LOCATION: (1)...(12)
 63 <223> OTHER INFORMATION: n = A,T,C or G

RAW SEQUENCE LISTING

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:49

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

W--> 65 <400> 3

W--> 66 taattanggg ng

12

68 <210> SEQ ID NO: 4

69 <211> LENGTH: 551

70 <212> TYPE: PRT

71 <213> ORGANISM: Homo sapiens

73 <220> FEATURE:

74 <221> NAME/KEY: VARIANT

75 <222> LOCATION: (0)...(0)

76 <223> OTHER INFORMATION: transcriptional regulatory protein

78 <400> SEQUENCE: 4

79 Met Asp Glu Leu Phe Pro Leu Ile Phe Pro Ala Glu Pro Ala Gln Ala

80 1 5 10 15

81 Ser Gly Pro Tyr Val Glu Ile Ile Glu Gln Pro Lys Gln Arg Gly Met

82 20 25 30

83 Arg Phe Arg Tyr Lys Cys Glu Gly Arg Ser Ala Gly Ser Ile Pro Gly

84 35 40 45

85 Glu Arg Ser Thr Asp Thr Thr Lys Thr His Pro Thr Ile Lys Ile Asn

86 50 55 60

87 Gly Tyr Thr Gly Pro Gly Thr Val Arg Ile Ser Leu Val Thr Lys Asp

88 65 70 75 80

89 Pro Pro His Arg Pro His Pro His Glu Leu Val Gly Lys Asp Cys Arg

90 85 90 95

91 Asp Gly Phe Tyr Glu Ala Glu Leu Cys Pro Asp Arg Cys Ile His Ser

92 100 105 110

93 Phe Gln Asn Leu Gly Ile Gln Cys Val Lys Lys Arg Asp Leu Glu Gln

94 115 120 125

95 Ala Ile Ser Gln Arg Ile Gln Thr Asn Asn Asn Pro Phe Gln Val Pro

96 130 135 140

97 Ile Glu Glu Gln Arg Gly Asp Tyr Asp Leu Asn Ala Val Arg Leu Cys

98 145 150 155 160

99 Phe Gln Val Thr Val Arg Asp Pro Ser Gly Arg Pro Leu Arg Leu Pro

100 165 170 175

101 Pro Val Leu Pro His Pro Ile Phe Asp Asn Arg Ala Pro Asn Thr Ala

102 180 185 190

103 Glu Leu Lys Ile Cys Arg Val Asn Arg Asn Ser Gly Ser Cys Leu Gly

104 195 200 205

105 Gly Asp Glu Ile Phe Leu Leu Cys Asp Lys Val Gln Lys Glu Asp Ile

106 210 215 220

107 Glu Val Tyr Phe Thr Gly Pro Gly Trp Glu Ala Arg Gly Ser Phe Ser

108 225 230 235 240

109 Gln Ala Asp Val His Arg Gln Val Ala Ile Val Phe Arg Thr Pro Pro

110 245 250 255

111 Tyr Ala Asp Pro Ser Leu Gln Ala Pro Val Arg Val Ser Met Gln Leu

112 260 265 270

113 Arg Arg Pro Ser Asp Arg Glu Leu Ser Glu Pro Met Glu Phe Gln Tyr

114 275 280 285

115 Leu Pro Asp Thr Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg

116 290 295 300

RAW SEQUENCE LISTING

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:49

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

```

117 Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly
118 305                      310                      315                      320
119 Pro Thr Asp Pro Arg Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg
120                      325                      330                      335
121 Ser Ser Ala Ser Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr
122                      340                      345                      350
123 Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe
124                      355                      360                      365
125 Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro
126 370                      375                      380
127 Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val
128 385                      390                      395                      400
129 Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly
130                      405                      410                      415
131 Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly
132                      420                      425                      430
133 Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu
134 435                      440                      445
135 Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr
136 450                      455                      460
137 Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln
138 465                      470                      475                      480
139 Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr
140                      485                      490                      495
141 Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp
142                      500                      505                      510
143 Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu
144 515                      520                      525
145 Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala
146 530                      535                      540
147 Leu Leu Ser Gln Ile Ser Ser
148 545                      550

```

150 <210> SEQ ID NO: 5

151 <211> LENGTH: 19

152 <212> TYPE: DNA

153 <213> ORGANISM: Artificial Sequence

155 <220> FEATURE:

156 <223> OTHER INFORMATION: DNA response element

158 <400> SEQUENCE: 5

159 tccctatcag tgatagaga

19

161 <210> SEQ ID NO: 6

162 <211> LENGTH: 22

163 <212> TYPE: DNA

164 <213> ORGANISM: Artificial Sequence

166 <220> FEATURE:

167 <223> OTHER INFORMATION: response element

169 <400> SEQUENCE: 6

170 cttaacactc gcgagtgtta ag

22

172 <210> SEQ ID NO: 7

RAW SEQUENCE LISTING

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:49

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

173 <211> LENGTH: 13
 174 <212> TYPE: DNA
 175 <213> ORGANISM: Artificial Sequence
 177 <220> FEATURE:
 178 <223> OTHER INFORMATION: response element
 W--> 180 <221> NAME/KEY: misc_feature
 181 <222> LOCATION: (3)...(3)
 182 <223> OTHER INFORMATION: n = G or T
 W--> 184 <221> misc_feature
 185 <222> LOCATION: (7)...(7)
 186 <223> OTHER INFORMATION: n = A,T,C or G
 W--> 188 <221> misc_feature
 189 <222> LOCATION: (12)...(12)
 190 <223> OTHER INFORMATION: n = A or C
 W--> 192 <400> 7
 W--> 193 rgntcantga cny
 195 <210> SEQ ID NO: 8
 196 <211> LENGTH: 77
 197 <212> TYPE: PRT
 198 <213> ORGANISM: Artificial Sequence
 200 <220> FEATURE:
 201 <223> OTHER INFORMATION: activator sequence
 203 <400> SEQUENCE: 8
 204 Ala Pro Pro Thr Asp Val Ser Leu Gly Asp Glu Leu His Leu Asp Gly
 205 1 5 10 15
 206 Glu Asp Val Ala Met Ala His Ala Asp Ala Leu Asp Asp Phe Asp Leu
 207 20 25 30
 208 Asp Met Leu Gly Asp Gly Asp Ser Pro Gly Pro Gly Phe Thr Pro His
 209 35 40 45
 210 Asp Ser Ala Pro Tyr Gly Ala Leu Asp Met Ala Asp Phe Glu Phe Glu
 211 50 55 60
 212 Gln Met Phe Thr Asp Ala Leu Gly Ile Asp Glu Tyr Gly
 213 65 70 75
 215 <210> SEQ ID NO: 9
 216 <211> LENGTH: 11
 217 <212> TYPE: PRT
 218 <213> ORGANISM: Artificial Sequence
 220 <220> FEATURE:
 221 <223> OTHER INFORMATION: activator sequence
 W--> 223 <221> NAME/KEY: VARIANT
 224 <222> LOCATION: (1)...(11)
 225 <223> OTHER INFORMATION: tetramer
 W--> 227 <400> 9
 228 Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
 229 1 5 10
 231 <210> SEQ ID NO: 10
 232 <211> LENGTH: 97
 233 <212> TYPE: PRT
 234 <213> ORGANISM: Artificial Sequence

13

RAW SEQUENCE LISTING

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:49

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

236 <220> FEATURE:

237 <223> OTHER INFORMATION: repressor sequence

239 <400> SEQUENCE: 10

240 Met Asp Ala Lys Ser Leu Thr Ala Trp Ser Arg Thr Leu Val Thr Phe

241 1 5 10 15

242 Lys Asp Val Phe Val Asp Phe Thr Arg Glu Glu Trp Lys Leu Leu Asp

243 20 25 30

244 Thr Ala Gln Gln Ile Val Tyr Arg Asn Val Met Leu Glu Asn Tyr Lys

245 35 40 45

246 Asn Leu Val Ser Leu Gly Tyr Gln Leu Thr Lys Pro Asp Val Ile Leu

247 50 55 60

248 Arg Leu Glu Lys Gly Glu Glu Pro Trp Leu Val Glu Arg Glu Ile His

249 65 70 75 80

250 Gln Glu Thr His Pro Asp Ser Glu Thr Ala Phe Glu Ile Lys Ser Ser

251 85 90 95

252 Val

255 <210> SEQ ID NO: 11

256 <211> LENGTH: 36

257 <212> TYPE: PRT

258 <213> ORGANISM: Artificial Sequence

260 <220> FEATURE:

261 <223> OTHER INFORMATION: repressor sequence

263 <400> SEQUENCE: 11

264 Met Ala Ala Ala Val Arg Met Asn Ile Gln Met Leu Leu Glu Ala Ala

265 1 5 10 15

266 Asp Tyr Leu Glu Arg Arg Glu Arg Glu Ala Glu His Gly Tyr Ala Ser

267 20 25 30

268 Met Leu Pro Tyr

269 35

271 <210> SEQ ID NO: 12

272 <211> LENGTH: 116

273 <212> TYPE: DNA

274 <213> ORGANISM: Escherichia coli

276 <220> FEATURE:

277 <221> NAME/KEY: misc_feature

278 <222> LOCATION: (0)...(0)

279 <223> OTHER INFORMATION: partial promoter sequence

281 <400> SEQUENCE: 12

282 cgcggtcaga aaattatattt aaatttcctc ttgtcaggcc ggaataactc cctataatgc 60

283 gccaccactg acacggaaca acggcaaaca cgccgccggg tcagcggggg tctcct 116

285 <210> SEQ ID NO: 13

286 <211> LENGTH: 22

287 <212> TYPE: DNA

288 <213> ORGANISM: Escherichia coli

290 <220> FEATURE:

291 <221> NAME/KEY: misc_feature

292 <222> LOCATION: (0)...(0)

293 <223> OTHER INFORMATION: partial promoter sequence

295 <400> SEQUENCE: 13

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/518,297A

DATE: 02/23/2005
TIME: 10:58:50

Input Set : A:\PTO.AMC.TXT
Output Set: N:\CRF4\02232005\I518297A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 7, 11

Seq#:7; N Pos. 3, 7, 12

Seq#:75; N Pos. 1, 2, 14, 15

VERIFICATION SUMMARY

DATE: 02/23/2005

PATENT APPLICATION: US/09/518,297A

TIME: 10:58:50

Input Set : A:\PTO.AMC.TXT

Output Set: N:\CRF4\02232005\I518297A.raw

L:61 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:65 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:180 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:184 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:188 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:192 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:223 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:227 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:1382 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0
L:1391 M:283 W: Missing Blank Line separator, <400> field identifier
L:1470 M:283 W: Missing Blank Line separator, <400> field identifier

misaligned
amino acid
numbering

VERIFICATION SUMMARY

DATE: 01/24/2005

PATENT APPLICATION: US/09/518,297A

TIME: 11:17:46

Input Set : A:\54600-8130US00.TXT

Output Set: N:\CRF4\01242005\I518297A.raw

L:61 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:65 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:180 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:184 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:188 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:192 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:223 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:227 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:1255 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:64
M:332 Repeated in SeqNo=64
L:1257 M:252 E: No. of Seq. differs, <211> LENGTH:Input:43 Found:44 SEQ:64
L:1382 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0
L:1391 M:283 W: Missing Blank Line separator, <400> field identifier
L:1470 M:283 W: Missing Blank Line separator, <400> field identifier